

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) Inflation circuit comprising a compressed fluid source, a compressed fluid supply line connected to the source, a ~~non-return~~ valve interposed in the supply line between a reception chamber and the fluid source, a branch connected to the supply line between the ~~non-return~~ valve and the source, a ~~diversion line connected to the branch, and a calibrated leak device connected to the diversion~~ communicable with the supply line in order to form a calibrated leak of compressed fluid from the branch, ~~characterized in that the non-return supply line, wherein the valve comprises is a springless non-return valve which includes a free differential valve having a free floating stopper movable between open and closed positions in response to a fluid pressure differential between a supply line side of the stopper and a reception chamber side of the stopper, the stopper being biased to the open position when a greater pressure occurs at the supply line side to enable fluid to flow between the supply line side and the reception chamber side, wherein the stopper is permitted to close gradually by the calibrated leak to enable a limited amount of fluid to flow from the reception chamber side to the supply line side if communication between the compressed fluid source and the supply line is blocked.~~

2. (Currently Amended) Circuit according to claim 1, wherein the reception chamber is disposed in the a wheel intended to be equipped with a tire, and in that the valve is mounted in an axis of the hub of the wheel.

3. (Currently Amended) Circuit according to claim 2, wherein the non-return valve is ~~mobile~~ rotatable with the wheel.

4. (Currently Amended) Circuit according to claim 1, ~~wherein it comprises~~ further including a loss of head device ~~(78) interposed~~ comprising an adjustable choke between the reception chamber and the non-return valve.

5. (Canceled)

6. (Currently Amended) Circuit according to claim 1, wherein the free differential valve comprises a hollow ferrule surmounted by a cap ~~and a~~ with the stopper floating in an inner space of the cap at the top of the ferrule.

7. (Currently Amended) Circuit according to claim 1, wherein the ~~non-return~~ free differential valve ~~with a free differential valve~~ further comprises a circular cylindrical plate ~~(76)~~ with a first diametric perforation communicating with a second perforation starting from a circular face of the plate, ~~a two-way valve with a simple non-return mechanism being~~ wherein the stopper is mounted ~~opposite~~ adjacent to the second perforation.

8. (Currently Amended) Circuit according to claim 1, wherein the ~~non-~~  
return calibrated leak device communicates with the supply line through a branch  
connected to the supply line, wherein the non-return valve comprises a circular  
cylindrical plate (76) equipped with a circular groove formed in its peripheral face and  
two toric joints bordering this groove.

9. (Currently Amended) Circuit according to claim 1, wherein ~~it comprises~~  
the calibrated leak device communicates with the supply line through a branch  
connected to the supply line, the circuit further including an actuated valve (EVGF) in  
the supply line for isolating the fluid source ~~of the supply line~~ from the branch.

10. (Currently Amended) Circuit according to claim 1, ~~wherein it comprises~~  
wherein the calibrated leak device is disposed in a diversion line connected to a  
branch which is connected to the supply line, the circuit; further including a valve  
(EVDG) interposed in the diversion line between the calibrated leak device and the  
branch.

11. (Currently Amended) Circuit according to claim 1, ~~wherein it comprises~~  
further comprising a pressure or output measuring device (CP1) which is connected  
to the supply line.

12. (Currently Amended) Circuit according to claim 1, ~~wherein it comprises~~  
further comprising an adjustment circuit (EG) for controlling the calibrated leak  
device from a signal issued by a pressure or output measuring device.

13. (Currently Amended) Circuit according to claim 1, ~~wherein it comprises~~ 9, further comprising, on the supply line, additional branches mounted between non-return valves (VA, VB, VC, VD) of plural reception chambers and the fluid source, and a set (EVA, EVB, EVC, EVD) of valves mounted on distribution lines connected to the branches.

14. (Currently Amended) Circuit according to claim 13, wherein the non-return valves can be controlled independently of one another.

15. (Original) Circuit according to claim 1, wherein the leak is calibrated in order to permit total deflation of the chamber in more than 50 seconds.

16. (Currently Amended) Circuit according to claim 1, wherein the free differential valve comprises a cap with an internal trefoil-shaped profile.

17. (Currently Amended) Inflation circuit comprising a compressed fluid source, a compressed fluid supply line connected to the source, a non-return valve interposed in the supply line between a reception chamber and the fluid source, a branch connected to the supply line between the non-return valve and the source, a ~~diversion line connected to the branch, and a calibrated leak device connected to the diversion~~ communicable with the supply line in order to form a calibrated leak of compressed fluid from the branch supply line, wherein the reception chamber is ~~disposed in~~ defined by a wheel intended to be equipped with a tire, and ~~in that it~~

~~comprises further comprising~~ a loss of head device ~~(78) interposed comprising an~~  
adjustable choke disposed in the wheel between the valve and the compressed fluid  
reception chamber of the wheel ~~and the valve~~.

18. (Canceled)

19. (Currently Amended) Circuit according to claim 17, wherein ~~it comprises~~  
the non-return valve is springless and includes a free differential valve.

20. (Currently Amended) Circuit according to claim ~~47~~ 19, wherein it  
~~comprises a valve~~ the free differential valve is mounted in ~~an axis of the~~ a hub of the  
wheel along a rotary axis of the wheel.

21. (Currently Amended) Circuit according to claim ~~47~~ 19, wherein the free  
differential valve comprises a hollow ferrule surmounted by a cap and a stopper  
floating in an inner space of the cap at the top of the ferrule.

22. (Currently Amended) Circuit according to claim 17, wherein the non-  
return valve comprises a circular cylindrical plate (76) with a first diametric  
perforation communicating with a second perforation starting from a circular face of  
the plate, ~~and a two-way valve with a simple non-return mechanism~~ the free  
differential valve being mounted opposite to the second perforation.

23. (Currently Amended) Circuit according to claim 17, wherein the non-return valve comprises a circular cylindrical plate (76) equipped with a circular groove formed in its peripheral face and two toric joints bordering this groove.

24. (Currently Amended) Circuit according to claim 17, ~~wherein it comprises~~ further comprising an actuated slide valve (EVGF) for isolating the fluid source from the ~~supply line~~ calibrated leak.

25. (Currently Amended) Circuit according to claim 17, ~~wherein it comprises~~ further comprising a slide valve (EVDG) interposed ~~in the diversion line~~ between the calibrated leak and the ~~branch~~ supply line.

26. (Currently Amended) Circuit according to claim 17, ~~wherein it comprises~~ further comprising a pressure or output measuring device (CP1) connected to the supply line.

27. (Currently Amended) Circuit according to claim 17, ~~wherein it comprises~~ further comprising an adjustment circuit ( $\square C$ ) for controlling the calibrated leak device from a signal issued by a pressure or output measuring device.

28. (Currently Amended) Circuit according to claim 17, ~~wherein it comprises,~~ further comprising on the supply line, ~~supplementary~~ a plurality of branches mounted between ~~the non-return~~ respective non-return valves (VA, VB, VC, VD) of plural

reception chambers and the fluid source, and a set (EVA, EVB, EVC, EVD) of slide valves mounted on respective distribution lines connected to the branches.

29. (Currently Amended) Circuit according to claim 28, wherein the non-return valves can be controlled independently of one another.

30. (Original) Circuit according to claim 17, wherein the leak is calibrated to permit total deflation of the chamber in more than 50 seconds.

31. (Currently Amended) Inflation circuit of a wheel intended to be equipped with a tire, the circuit comprising an interposed non-return valve and a hub intended to receive the wheel, the hub having an axis of rotation, wherein ~~it comprises as a non-return valve a two-way valve~~ the non-return valve is mounted in the hub and includes a movable element movable along the center axis of rotation of the hub wheel.

32. (Currently Amended) Circuit according to claim 31, wherein the ~~two-way~~ valve is ~~mobile~~ rotatable with the wheel.

33. (Currently Amended) Circuit according to claim 31, ~~wherein it comprises~~ further comprising a compressed fluid source, a supply line for the compressed fluid connected to the source, the non-return valve being interposed in the supply line between a reception chamber of the wheel and the fluid source, a branch connected to the supply line between the non-return valve and the source, a diversion line

connected to the branch, and a calibrated leak device connected to the diversion line in order to realize a calibrated leak of compressed fluid from the branch, the non-return valve ~~comprising~~ being springless and including a free differential valve.

34. (Currently Amended) Circuit according to claim 31, ~~wherein it comprises~~ further comprising a loss of head device (78) comprising an adjustable choke interposed between a compressed fluid reception chamber of the wheel and the valve.

35. (Canceled)

36. (Currently Amended) Circuit according to claim 31, wherein ~~it comprises~~ the non-return valve is springless and includes a free differential valve which includes the movable element.

37. (Currently Amended) Circuit according to claim ~~35~~ 36, wherein the free distribution valve comprises a hollow ferrule surmounted by a cap and a stopper floating in an inner space of the cap at the top of the ferrule, the stopper defining the movable element.

38. (Currently amended) Circuit according to claim 31, wherein the non return valve comprises a circular cylindrical plate (76) with a first diametric perforation communicating with a second perforation starting from a circular face of



the plate, ~~a two-way valve with a simple non-return mechanism~~ the free distribution valve being mounted opposite to the second perforation.

39. (Currently Amended) Circuit according to claim 31, wherein the non return valve comprises a circular cylindrical plate (76) equipped with a circular groove formed in its peripheral face and two toric joints bordering the groove.

40. (Currently Amended) Circuit according to claim 31, ~~wherein it comprises~~ further comprising an actuated slide valve (EVGF) for isolating the fluid source from the supply line.

41. (Currently Amended) Circuit according to claim ~~31, wherein it comprises~~ 33, further comprising a slide valve (EVDG) interposed in the diversion line between the calibrated leak device and the branch.

42. (Currently Amended) Circuit according to claim 31, ~~wherein it comprises~~ further comprising a pressure or output measuring device (~~CP~~) connected to the supply line.

43. (Currently Amended) Circuit according to claim 31, ~~wherein it comprises~~ further comprising an adjustment circuit (~~EC~~) for controlling the calibrated leak device from a signal issued by a pressure or output measuring device.

44. (Currently Amended) Circuit according to claim 31, ~~wherein it comprises, 33, further comprising~~ on the supply line, supplementary branches mounted between non-return respective valves (~~VA, VB, VC, VD~~) of plural reception chambers and the fluid source, and a set (EVA, EVB, EVC, EVD) of slide valves mounted on distribution lines connected to the branches.

45. (Original) Circuit according to claim 44, wherein the slide valves can be controlled independently of one another.

46. (Original) Circuit according to claim 31, wherein the leak is calibrated to allow total deflation of the chamber in more than 50 seconds.

47. (Original) Wheel comprising an inflation circuit according to claim 31.

48. (New) Circuit according to claim 17, wherein the choke comprises a perforated screw extending from the hub to a radially outer periphery of the wheel.